

t3_commacat (TM- FWgo1wn1ZP1RrfZsmMa1oVqbDaeKueGbC)

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Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_cat_1 : \iota \Rightarrow o$ be given. Let $v2_cat_1 : \iota \Rightarrow o$ be given. Let $l1_cat_1 : \iota \Rightarrow o$ be given. Let $k18_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_graph_1 : \iota \Rightarrow \iota$ be given. Let $u2_graph_1 : \iota \Rightarrow \iota$ be given. Let $u1_cat_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((v1_funct_1 \\
& X2) \wedge ((v1_funct_2 X2 X1 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 X0)))))) \wedge (((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 X0) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X1 X1) X1)))))) \Rightarrow (\forall X5. \\
& \forall X6. \forall X7. \forall X8. \forall X9. (g1_cat_1 X0 X1 X2 \\
& X3 X4 = g1_cat_1 X5 X6 X7 X8 X9) \Rightarrow ((X0 = X5) \wedge ((X1 = X6) \wedge ((X2 = X7) \wedge ((X3 = \\
& X8) \wedge (X4 = X9))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (v1_cat_1 (k3_cat_1 X0 X1)) \wedge (v2_cat_1 (k3_cat_1 X0 X1)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (v1_cat_1 (k3_cat_1 X0 X1)) \wedge (l1_cat_1 (k3_cat_1 X0 X1)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (v1_funct_1 (k18_funcop_1 X0 X1)) \wedge ((v1_funct_2 \\
& (k18_funcop_1 X0 X1) (k1_tarski X0) (k1_tarski X1)) \wedge (m1_subset_1 \\
& (k18_funcop_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k1_tarski X0) \\
& (k1_tarski X1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1_funct_1 (k17_funcop_1 X0 \\ & X1 X2))\wedge((v1_funct_2 (k17_funcop_1 X0 X1 X2) (k2_zfmisc_1 (k1_tarski \\ & X0) (k1_tarski X1)) (k1_tarski X2))\wedge(m1_subset_1 (k17_funcop_1 \\ & X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_tarski X0) \\ & (k1_tarski X1)) (k1_tarski X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.k3_cat_1 X0 X1 = g1_cat_1 (k1_tarski X0) (\\ & k1_tarski X1) (k18_funcop_1 X1 X0) (k18_funcop_1 X1 X0) (k17_funcop_1 \\ & X1 X1 X1) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_cat_1 X0)\Rightarrow((v1_cat_1 X0)\Rightarrow(X0 = g1_cat_1 (u1_struct_0 \\ & X0) (u4_struct_0 X0) (u1_graph_1 X0) (u2_graph_1 X0) (u1_cat_1 \\ & X0))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.(u1_struct_0 (k3_cat_1 X1 X0) = k1_tarski \\ & X1)\wedge(u4_struct_0 (k3_cat_1 X1 X0) = k1_tarski X0) \end{aligned}$$